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| APPLICATION NO.                | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--------------------------------|-------------|----------------------|---------------------|------------------|
| 10/576,415                     | 04/19/2006  | Hiroyuki Katsuno     | Q94519              | 2349             |
| 23373                          | 7590        | 12/21/2007           | EXAMINER            |                  |
| SUGHRUE MION, PLLC             |             |                      | FISCHER, JUSTIN R   |                  |
| 2100 PENNSYLVANIA AVENUE, N.W. |             |                      | ART UNIT            |                  |
| SUITE 800                      |             |                      | PAPER NUMBER        |                  |
| WASHINGTON, DC 20037           |             |                      | 1791                |                  |
|                                |             |                      | MAIL DATE           | DELIVERY MODE    |
|                                |             |                      | 12/21/2007          | PAPER            |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/576,415

Applicant(s)

KATSUNO; HIROYUKI

Examiner

Justin R. Fischer

Art Unit

1791

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>41906</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oura (JP 2001180234). As best depicted in Figure 1, Oura teaches a pneumatic tire construction comprising a runflat insert 9 disposed inward of a carcass structure 5 and a steel cord reinforcing layer 10 arranged along a carcass turnup portion 5b. The reference further teaches that the steel cord reinforcing layer has an end count of at least 20 cords per 50 millimeters (Paragraph 22 of attached machine translation). Based on this end count, the cords can be spaced by as much as 2.5 mm (1 cord/2.5 mm). Additionally, the filaments of said steel cord can have a diameter between 0.15 and 0.40 millimeters (Paragraph 22). While the reference fails to expressly relate the cord diameter and the cord spacing, one of ordinary skill in the art at the time of the invention would have readily appreciated the broad range of the claimed invention in view of the general disclosure noted above. For example, given a spacing of 2.5 mm, the cord diameter would have to be less than 1.0 mm to satisfy the claimed range- such a cord diameter is consistent with steel cords comprised of the disclosed filaments and those used in bead reinforcing layers. As such, one of ordinary skill in the art at the

time of the invention would have found it obvious to form the steel cord reinforcing layer of Oura with a cord spacing in accordance to the claimed invention.

Lastly, with respect to the independent claim, the results of Table 1 do not provide a conclusive showing of unexpected results for the claimed cord spacing. In particular, it is unclear if the realized benefits are a product of the specific cord used in the respective tire constructions (e.g. would the same benefits be realized if a different steel cord was used). In order to demonstrate a criticality for the claimed cord spacing, it is suggested that applicant conduct multiple experiments using a variety of cord constructions (claim as currently drafted is generic to the steel cord and applicant must demonstrate that the realized benefits are unrelated to the cord construction).

Regarding claim 2, given the example disclosed above, the cord diameter would have to be less than or equal to 0.5 mm- such a cord diameter is consistent with steel cords comprised of the disclosed filaments and those used in bead reinforcing layers.

With respect to claims 3, 4, and 7, the metallic filaments in Oura are described as having an elastic modulus of at least 16,000 MPa (Paragraph 8 of attached machine translation). Given such a disclosure, one of ordinary skill in the art at the time of the invention would have readily appreciated a wide range of high elongation steel cords, including that required by the claimed invention. It is further noted that Table 2 is not seen to provided a conclusive showing of unexpected results for the specific cord because it is unclear if such benefits are realized in additional constructions in accordance to the claimed invention (e.g. different cord angle or different radial width). It is suggested that applicant provide additional results that clearly set forth the criticality

of the claimed cord construction. Lastly, as to claim 7, given the similarity in bead constructions (reference and claimed invention), one of ordinary skill in the art at the time of the invention would have expected the tire of Oura to demonstrate a shear rigidity in accordance to the claimed invention.

As to claim 5, the steel cord reinforcing layer of Oura is (a) arranged between a bead filler 8 and a carcass turnup 5b and (b) disposed in a radial zone ranging from the contact point (with the rim) to the height of the maximum section width (see Figures).

Regarding claim 6, the steel cord reinforcing layer of Oura has a radial width equal to 0.30-0.50 times the tire section height, which is extremely similar to the claimed range between 0.20 and 0.48 times the tire section height. Also, such constructions would have a radially outer end that is radially inward of a height equal to 0.50 times the tire section height.

With respect to claim 8, the steel cord reinforcing elements used to form layer 10 are inclined between 40 and 80 degrees with respect to the longitudinal direction of the radial carcass cords (Paragraph 15).


### ***Conclusion***

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ohura (US 6,543,502) teaches a runflat tire construction having a steel cord reinforcing layer disposed between a carcass main portion and a carcass turnup portion, wherein the steel cords having a modulus of elasticity of at least 3,200 MPa (Column 3, Lines 55-65).

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin R. Fischer whose telephone number is (571) 272-1215. The examiner can normally be reached on M-F (7:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Justin R Fischer  
Primary Examiner  
Art Unit 1791

JRF  
December 12, 2007